AMENDMENTS TO THE CLAIMS

Claims 1-18 and 36-47 are pending in the instant application. Claims 1, 4, 36, and 39 have been amended. The Applicants request reconsideration of the claims in view of the following amendments reflected in the listing of claims.

Listing of claims:

1. (currently amended) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, ~~and~~ wherein said at least one inductor comprises a plurality of coils, and wherein said at least one inductor comprises a first inductor and a second inductor that is spatially oriented differently from the first inductor.

2. (previously presented) The device according to claim 1, wherein the hearing aid comprises at least one of the following: a behind-the-ear (BTE) hearing, an in-the-ear (ITE) hearing aid, an in-the-canal (ITC) hearing aid, and a completely-in-the-canal (CIC) hearing aid.

3. (original) The device according to claim 1, wherein the microphone comprises an output connected to an input of a high-pass filter, the high pass filter

being used to reduce low-frequency components of an electrical signal and avoid excessive low-frequency coupling to the hearing aid.

4. (currently amended) The device according to claim 1, ~~wherein the at least one inductor comprises two inductors,~~ wherein the first inductor is an in-the-ear (ITE) transmit inductor and the second inductor is a behind-the-ear (BTE) transmit inductor, wherein a switch is provided to perform at least one of the following: enable the first inductor and disable the second inductor, enable the second inductor and disable the first inductor, enable the first and second inductors, and disable the first and second inductors.

5. (original) The device according to claim 1, wherein the magnetic field emanating from the hearing improvement device comprise approximately 30 mA/meter at 1 kHz, wherein 1 kHz lies in range of frequencies comprising human speech.

6. (previously presented) The device according to claim 1, wherein the hearing improvement device is adapted to operate on an ear of a user by an earhook, wherein the hearing improvement device is positioned one of the following: adjacent a user's outer ear and adjacent the user's head.

7. (previously presented) The device according to claim 1, wherein the hearing improvement device comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein lines of magnetic

flux generated by at least one of the following: the ITE transmit inductor and the BTE transmit inductor are arranged primarily vertically in a region within which at least one of the following: the ITE hearing aid and the BTE hearing aid is located to optimize interaction with the vertically oriented telecoil located within at least one of the following: the ITE hearing aid and the BTE hearing aid.

8. (previously presented) The device according to claim 1, wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein field strength of at least one of the following: the ITE transmit inductor and the BTE transmit inductor are maximized by providing a core of at least one of the following: the ITE transmit inductor and the BTE transmit inductor being sized to be contained within a limitation of space and orientation available in at least one of the following: behind a user's outer ear and between the user's outer ear and the user's head.

9. (previously presented) The device according to claim 1, wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, wherein wire gauge and number of turns of the coil are chosen to give inductance and resistance values allowing peak current, wherein peak current comprises a level of current sufficient to drive an iron core of at least one of the

following: the ITE transmit inductor and the BTE transmit inductor to a saturation edge.

10. (previously presented) The device according to claim 1, wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, the coil comprising windings, wherein the windings of at least one of the following: the ITE transmit inductor and the BTE transmit inductor are used for coupling to telecoils of at least one of the following: the ITE hearing aid and the BTE hearing aid.

11. (previously presented) The device according to claim 1, wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, the coil comprising windings, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor are divided into two windings spaced a distance apart by a winding gap and the two windings are positioned on a common core, wherein the two windings are adapted to improve uniformity of the magnetic fields induced by at least one of the following: the ITE transmit inductor and the BTE transmit inductor.

12. (previously presented) The device according to claim 1, wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, the coil comprising windings, wherein the windings of at least one of the following: the ITE transmit inductor and the BTE transmit inductor extend as close as practical to an end of the core to maintain a uniform field near ends of the core.

13. (previously presented) The device according to claim 1, wherein the at least one inductor comprises an inductor pair positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of inductors of the inductor pair comprises a coil comprising at least two windings spaced a distance apart by winding gaps, wherein the winding gaps of each inductor of the inductor pair permits inductors to overlap within respective winding gaps to minimize thickness of the inductor pair.

14. (original) The device according to claim 1, wherein the hearing improvement device produces a flat frequency response at an output of a receiving telecoil, wherein frequency-dependent drive voltage response compensates for a combined frequency response, and wherein a transmit inductor drive voltage produces a flat receiving telecoil frequency response, and wherein overall magnetic coupling response is uniform over a speech frequency range.

15. (original) The device according to claim 1, wherein the at least one inductor comprises an inductor pair, each inductor of the inductor pair comprises at least two windings spaced a distance apart by a winding gap, wherein the winding gaps of each inductor of the inductor pair permit one inductor of the inductor pair to overlap another inductor of the inductor pair at respective winding gaps of each inductor, wherein the overlapped inductors avoid buildup of field strength near a center of each inductor that would occur with a continuous winding, and wherein the overlapped inductors provide a magnetic field adapted to couple to a variety of hearing aids types comprising a range of receiving telecoil positions.

16. (original) The device according to claim 1, wherein the hearing improvement device is positioned adjacent to the hearing aid, the hearing improvement device being located behind an ear and next to the head of a user providing coupling of a magnetic field generated by a transmit inductor coil within the hearing improvement device to a receiving telecoil located within the hearing aid having uniform magnetic coupling strength over a range of telecoil positions within the hearing aid.

17. (original) The device according to claim 1, wherein the hearing aid is one of connected via a wired connection to the hearing improvement device and connected wirelessly to the hearing improvement device.

18. (original) The device according to claim 1, wherein the hearing improvement device is adapted to connect to one of one earphone and two earphones.

19. – 35. (cancelled)

36. (currently amended)A method for processing signals, the method comprising:

transducing a sound field into a first electrical signal;

amplifying the first electrical signal into a second electrical signal; and

converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein said converting is performed via a ~~plurality of coils~~ at least a first inductor and a second inductor that is spatially oriented differently from the first inductor.

37. (previously presented) The method according to claim 36, further comprising filtering the first electrical signal prior to the amplifying.

38. (previously presented) The method according to claim 37, wherein said filtering comprises high-pass filtering that reduces low-frequency components of the first electric signal.

39. (currently amended)A hearing improvement device comprising:

a selector that enables selection of at least one of the following: a first sound field and a second sound field;

a microphone for transducing the selected sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, ~~and~~ wherein said at least one inductor comprises a plurality of coils, and wherein said at least one inductor comprises a first inductor and a second inductor that is spatially oriented differently from the first inductor.

40. (previously presented) The hearing improvement device according to claim 39, wherein the selector selects the first sound field or the second sound field based on signal strength of the first sound field and the second sound field.

41. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises two inductors, wherein the first inductor is an in-the-ear (ITE) transmit inductor and the second inductor is a behind-the-ear (BTE) transmit inductor, wherein a switch is provided to at least one of enable the first inductor and disable the second inductor, enable

the second inductor and disable the first inductor, enable the first and second inductors, and disable the first and second inductors.

42. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, wherein wire gauge and number of turns of the coil are chosen to give inductance and resistance values allowing peak current, wherein peak current comprises a level of current sufficient to drive an iron core of at least one of the following: the ITE transmit inductor and the BTE transmit inductor to a saturation edge.

43. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor comprises a coil, the coil comprising windings, wherein at least one of the following: the ITE transmit inductor and the BTE transmit inductor are divided into two windings spaced a distance apart by a winding gap and the two windings are positioned on a common core, wherein the two windings are adapted to improve uniformity of the magnetic fields induced by at least one of the following: the ITE transmit inductor and the BTE transmit inductor.

44. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises at least one of the following: an in-the-ear (ITE) transmit inductor and a behind-the-ear (BTE) transmit inductor positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of the following: the ITE transmit inductor and the

BTE transmit inductor comprises a coil, the coil comprising windings, wherein the windings of at least one of the following: the ITE transmit inductor and the BTE transmit inductor extend as close as practical to an end of the core to maintain a uniform field near ends of the core.

45. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises an inductor pair positioned to magnetically couple with a vertically-oriented telecoil located within at least one of the following: an ITE hearing aid and a BTE hearing aid, wherein at least one of inductors of the inductor pair comprises a coil comprising at least two windings spaced a distance apart by winding gaps, wherein the winding gaps of each inductor of the inductor pair permits inductors to overlap within respective winding gaps to minimize thickness of the inductor pair.

46. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the hearing improvement device produces a flat frequency response at an output of a receiving telecoil, wherein frequency-dependent drive voltage response compensates for a combined frequency response, and wherein a transmit inductor drive voltage produces a flat receiving telecoil frequency response, and wherein overall magnetic coupling response is uniform over a speech frequency range.

47. (previously presented) A hearing improvement device comprising:

a microphone for transducing a sound field into a first electrical signal;

an amplifier for amplifying the first electrical signal into a second electrical signal; and

at least one inductor for converting the second electrical signal into a magnetic field for coupling to at least one telecoil of a hearing aid, wherein the microphone is amplified and coupled through the at least one inductor to the hearing aid, and wherein the at least one inductor comprises an inductor pair, each inductor of the inductor pair comprises at least two windings spaced a distance apart by a winding gap, wherein the winding gaps of each inductor of the inductor pair permit one inductor of the inductor pair to overlap another inductor of the inductor pair at respective winding gaps of each inductor, wherein the overlapped inductors avoid buildup of field strength near a center of each inductor that would occur with a continuous winding, and wherein the overlapped inductors provide a magnetic field adapted to couple to a variety of hearing aids types comprising a range of receiving telecoil positions.